

1258-1170

2/25/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

February 25, 2013

Ms. Betzy Maldonado, Regulatory Specialist II
Arch Chemical, Inc.
(a business of Lonza)
5660 New Northside Drive, NW, Suite 1100
Atlanta, GA 30328

SUBJECT: Notification per PR Notice 98-10
PRODUCT NAME: **HTH Granular 75**
EPA REGISTRATION NUMBER: **1258-1170**
APPLICATION DATE: February 19, 2013
APPLICATION RECEIVED DATE: February 21, 2013

Dear Ms. Maldonado:

This acknowledges receipt of your Notification application, submitted pursuant to FIFRA 3 (c)7(A) and PR Notice 98-10.

Proposed Notification:

Arch Chemical, Inc is submitting a Notification to request to move the First Aid Statement from the front panel and add new Graphic Symbol and other minor changes.

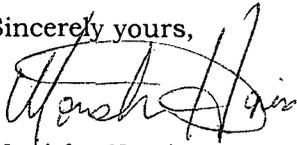
1. Add brackets "[]" to the statement "Minimum Available Chlorine...75%" since this is an optional reference on the label;
2. Add the Spanish translation of DANGER (PELIGRO) and KEEP OUT OF REACH OF CHILDREN (MANTENGASE.FUERA DEL ALCANCE DE LOS NINOS) as optional for the front panel of the label;
3. Add "Read all Precautionary and First Aid Statements before use" to Page One;
4. Move First Aid to Page Two and add Note To Reviewer and the following referral statement to Page One: See [left][right][back][side]panel for Precautionary Statement and First Aid Statement *due to the sizes of some of the Product packaging*;
5. Update the Company's Postal Address to P. O. Box 724438, Atlanta, GA 31189-1438 on Page One;
6. Add "Do Not Mix" Graphics Symbol;
7. Remove the "Arch" Graphics Symbol from Page Four, because it is not applicable;
8. Add the website reference www.(brand).com and removed www.xxx.com because it is not a verifiable website address;

General Comments:

Based on a review of the submitted materials, the following comments apply. Your Notification application is **Acceptable**. A copy of your accepted Notification is attached in your Regulatory File Jacket (**EPA Reg. No. 1258-1170**) for future reference.

If you have questions or comments about this Agency Letter, then please contact Killian Swift via email at **Swift.Killian@epa.gov** or by telephone at **703-308-6346**. When you are submitting information or data in response to this Agency Letter, then please send a copy of this Agency Letter with your Response in order to facilitate processing.

Sincerely yours,



Monisha Harris,
EPA Product Manager 32
Regulatory Management Branch II
Antimicrobials Division (7510P)

EPA

United States
Environmental Protection Agency
Washington, DC 20460

- Registration
 Amendment
 Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 1258-1170	2. EPA Product Manager Monisha Harris	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) HTH® Granular 75	PM# 32	
5. Name and Address of Applicant (Include ZIP Code) Arch Chemicals, Inc. (a business of Lonza) 5660 New Northside Dr, NW, Suite 1100 Atlanta, GA, 30328 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(I), my product is similar or identical in composition and labeling to: EPA Reg. No. Product Name	

Section - II

- Amendment - Explain below. Final printed labels in response to Agency letter dated _____
 Resubmission in response to Agency letter dated _____ "Me Too" Application
 Notification - Explain below. Other - Explain below

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Not Subject to PRIA

Label Notification to request to move First Aid from the front panel, add new graphics symbol to label and other minor changes. Refer to cover letter for details.

This notification is consistent with the provisions of PR-Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Signature: B. Maldonado Date: 2/19/13

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input checked="" type="checkbox"/> Yes* <input type="checkbox"/> No <i>*Certification must be submitted</i>	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
	If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt. No. per container		<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
				<input type="checkbox"/> Other (Specify)	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container	4. Size(s) Retail Container various		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On labeling accompanying product		
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)		
Name Betsy Maldonado	Title Regulatory Specialist II	Telephone No. (Include Area Code) 678-627-2228
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature <u>B. Maldonado</u>	3. Title Regulatory Specialist II	
4. Typed Name Betsy Maldonado	5. Date 2/19/2013	

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Arch Chemicals, Inc., a business of Lonza
5660 New Northside Dr NW, Suite 1100
Atlanta, GA, 30328

Betsy Maldonado
Regulatory Specialist II
Phone: 678-627-2228
Fax: 678-627-2081
Email: betsy.maldonado@lonza.com

Ms. Monisha Harris (PM-32)
U.S. Environmental Protection Agency
Office of Pesticide Programs (7510P)
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA, 22202-4501

February 19, 2013

Subject: HTH® Granular 75
(EPA Reg. No: 1258-1170)
Application for Label Notification

Dear Ms. Harris,

Arch Chemicals Inc. is submitting a notification to subject product's label. The changes are highlighted in the label for easy reference. The purpose of the notification is to:

1. Add brackets "[]" to the statement "Minimum Available Chlorine...75%" since this is an optional reference on the label.
2. Add the Spanish translation of DANGER (PELIGRO) and KEEP OUT OF REACH OF CHILDREN (MANTENGASE FUERA DEL ALCANCE DE LOS NIÑOS) as optional for the front panel of the label.
3. Add "Read all Precautionary and First Aid Statements before use" to page 1.
4. Move First Aid to page 2, and add a Note to reviewer and the following referral statement to page 1: See [left] [right] [back] [side] panel for Precautionary and First Aid Statements.

The reason we are asking for this allowance is due to the size of some of our packaging. The smaller sizes present a challenge to fit all of the required language on the front panel. Our note to reviewer includes the statement, "If the First Aid Statements are placed on the front panel of the final graphic label, the statement below will not be used." The intent of that statement was that when space is not an issue, the language First Aid statements would appear on the front panel and the referral statement would not be used. The statement "Note to reviewer: Although this product..." , was added to page 1.

5. Update the company's postal address to P.O. Box 724438, Atlanta, GA, 31139-1438 on page 1.
6. Add the "Do Not Mix" graphics symbol to page 4.
7. Remove the "Arch" graphics symbols from page 4 since it is not applicable.
8. Add the website reference [www.\(brand\).com](http://www.(brand).com) and removed www.xxx.com since it not a verifiable website address.
9. Other minor format changes.

Note to Reviewer:

{Items in brackets [AAA] are optional and may/may not be included on final label}
{Items in braces {AAA} are for information purposes and will not appear on final label}

HTH® Granular 75

ACTIVE INGREDIENT: CALCIUM HYPOCHLORITE	78%
OTHER INGREDIENTS:	22%
TOTAL.....	100%

[Minimum Available Chlorine.....75%]

**KEEP OUT OF REACH OF CHILDREN
[MANTEGASE FUERA DEL ALCANCE DE LOS NIÑOS]**

DANGER [PELIGRO]

Contamination or Improper use may cause fire, explosion, or the release of toxic gases. Do not allow product to contact any foreign matter, including other water treatment products. If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. {Optional – for use on residential use swimming pool products} [Do not mix this product with a small amount of water. Only add directly to your pool.] Do not add water to this product. Add only into water. Highly corrosive. Causes skin and eye damage. May be fatal if swallowed.

Read all Precautionary and First Aid Statements before use.

{Note to reviewer: Although this product has a Danger signal word as per the EPA label review manual. The Agency may permit reasonable variations in the placement of the First Aid statement as long as the reference statement: See First Aid (or Statement of Practical Treatment) on (identify appropriate panel) appears on the front panel. If the First Aid Statements are placed on the front panel of the final graphic label, the statement below will not be used.}

See [left], [right], [back], [side] panel for additional Precautionary and First Aid Statements.

[Sold] [Manufactured] [By] [For]:
Arch Chemicals, Inc.
P.O. Box 724438
Atlanta, GA 31139-1438

EPA Reg. No. 1258-1170
EPA EST. NO. _____ [Superscript Used in Lot Number]
Net Wt. _____

NOTIFICATION
Date Received: _____ **FEBRUARY 25, 2013**
Reviewed By: _____
Killian B. Swift

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

FIRST AID:

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

IN CASE OF EMERGENCY CALL: 1-800-654-6911

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS: DANGER. Highly corrosive. Causes irreversible eye damage and skin burns. May be fatal if swallowed. Irritating to nose and throat.

- Open in a well-ventilated area. Avoid breathing dust and fumes.
- Do not get in eyes, on skin, or on clothing. Do not handle with bare hands. Wear goggles and use rubber gloves. For additional protection of skin, wear long sleeves and long pants.
- Wash thoroughly with soap and water after handling and before eating, drinking, using tobacco.
- Remove and wash contaminated clothing before reuse.

Only use utensils that are thoroughly clean and dry.

PHYSICAL and CHEMICAL HAZARDS:

If product is exposed to small amounts of water, it can react violently to produce heat and toxic gases and spatter. Do not add water to this product. Add only into water.

- Do not allow to become wet or damp before use.
- Can react with other materials, including other water treatment products, to cause intense fire, explosion, and the release of toxic gases.
- Keep all foreign matter, including other water treatment products, away from this product.
- Do not use this product in a floater or feeder that has been used with any other product.
- Do not allow this product to contact other water treatment products. If used with a skimmer, make sure skimmer is completely clean and free of residue from other water treatment products before putting this product in a skimmer.

Exposure to heat can cause this product to rapidly decompose, leading to intense fire, explosion, and the release of toxic gases.

- Store in a cool, dry, well ventilated area.

Strong oxidizing agent. This product can increase fire intensity. Keep away from heat and from flame and burning material (like a lighted cigarette).

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

{Environmental hazards statement for end-use products in containers less than 5 gallons (liquid) or less than 50 pounds (solid, dry weight) use only the first sentence. All others use the full paragraph.}

ENVIRONMENTAL HAZARDS: This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, ponds, streams, estuaries, oceans or public waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

STORAGE & DISPOSAL: *{Optional statements – usage depends on whether or not refillable or nonrefillable containers are used and whether or not product is packaged for household/residential use only}*

[[Nonrefillable container - household/residential use] Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Nonrefillable container. Do not reuse or refill this container. Rinse empty container thoroughly with water to dissolve all material prior to disposal. Offer for recycling if available. Do not contaminate food or feed by storage or disposal or cleaning of equipment. **FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.]**

[[Refillable container – household/residential use] Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. **FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.** Refillable container. Refill this container with calcium hypochlorite only. Do not use this container for any other purpose. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

[[Nonrefillable container - non-household/residential use] Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. **FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.** Nonrefillable container. Do not reuse this container. Offer for recycling if available. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

[[Refillable container – non-household/residential use] Keep this product dry in its tightly closed container when not in use. Store in a cool, dry, well-ventilated area. Keep away from heat or open flame. Do not contaminate food or feed by storage or disposal or cleaning of equipment. **FOR DISPOSAL OF A CONTAMINATED OR DECOMPOSING PRODUCT SEE EMERGENCY HANDLING.** Refillable container. Refill this container with calcium hypochlorite only. Do not use this container for any other purpose. Cleaning of this container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. Rinse empty container thoroughly with water to dissolve all material prior to disposal.]

EMERGENCY HANDLING: In case of contamination or decomposition – Do not reseal container. Immediately remove container to an open and well-ventilated outdoor area by itself. Flood with large amounts of water. Dispose of the container and any remaining contaminated material in an approved landfill area.

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

{Optional}



[]



[]

{MARKETING CLAIMS}

{Statements available to all labels}

[Kills Bacteria]

[Controls Algae]

[Destroys Organic Contaminants]

[Controls [growth of] algae, kills bacteria and destroys organic contaminants in [pools] [spas & hot tubs]]

[Dry, free-flowing form]

[Concentrated chlorinating agent]

[78% available chlorine]

[Concentrated chlorinator for routine use]

[Quick dissolving]

[Fast acting with minimal residue]

[Fast acting]

[Innovative]

[Patented]

[Exclusive]

[Exclusive, patented technology]

[Controls algae]

[Destroys organic contaminants]

[Eliminates bacteria]

[Destroys bacteria]

[Get bacteria-free water]

{Optional statements for use with swimming pool sanitization directions}

[Contains no cyanuric acid]

[Will not cause over stabilization]

[Sanitizes pool water]

[Swimming pool sanitizer]

[Good for all pool surfaces]

[Multipurpose chlorinator for crystal clear water]

[Multipurpose sanitizer for crystal clear water]

[Multipurpose sanitizer and shock treatment; all in one]

[Multipurpose sanitizer and shock treatment]

{Optional statements for use with shock directions}

[Powerful shock treatment for crystal clear water]

[Multipurpose sanitizer and shock treatment; all in one]

[Multipurpose sanitizer and shock treatment]

[Multipurpose chlorinator for crystal clear water]

[Multipurpose sanitizer for crystal clear water]

[Contains no cyanuric acid]

[Will not cause over stabilization]

[Sanitizes pool water]

[Swimming pool sanitizer]

[Good for all pool surfaces]

[Visit [brand]: [www.\(brand\).com](http://www.(brand).com)]

[Brand Name] HELPLINE

[866-HTH-POOL]

[866-4-POOL-FUN]

[Toll Free]

[Call 7 days a week with your questions concerning pool water care. 8:00 a.m. - 10:00 p.m. Eastern time]

[HTH®], [Sock It®], [Super Sock It®] and [ph Plus®] (brand name) [logo] are registered trademarks of Arch Chemicals, Inc.

[Patent no. 4,728,454]

[MADE IN USA]

HTH® Granular 75

EPA Reg. No: 1258-1170

EPA Stamped Label 5/28/09, Draft 2/19/13

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

DIRECTIONS FOR USE: It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

READ ALL PRECAUTIONARY STATEMENTS BEFORE USE.

{Use 1} [SWIMMING POOLS

[WHY YOU SHOULD USE THIS PRODUCT: This product is the ultimate in shock products providing a super (or concentrated) boost of chlorine with quick results that is convenient, easy to use, and won't over-stabilize your pool. For crystal clean pool water, follow our 4 step pool care program: Step 1: Test and adjust pool water balance, Step 2: Chlorinate and clarify, Step 3: Shock treat your pool at least once a week, and Step 4: Add algaecide regularly [where needed].

{For commercial pool, municipal, and industrial labels:}

[This product is a concentrated chlorinating agent in a dry, free-flowing form which controls the growth of algae, kills bacteria, and destroys organic contaminants in pools, spas and hot tubs.]

{Small pools (500 gallons to less than 10,000 gallons) and pools 10,000 gallons and above}

[HOW TO USE: Add the recommended dosage of this product during evening hours while the filter pump is running. When adding this product to your pool, broadcast the product evenly over a wide area in the deepest part of the pool.

{When contents are in a resealable container} [Use a clean, dry [scoop] lid to measure this product]. [Do not use the [scoop] lid for any other purpose.]

METHOD OF APPLICATION: Use the cap to measure. Add the recommended dosages of this product after each usage or as needed. When adding this product to your pool, broadcast the product evenly over the surface of the pool.

WATER BALANCE: For best product performance, swimmer comfort, and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 {retail brands only} {Commercial brands for very large commercial or municipal pools will use [60 to 100]} parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use [HTH] (brand name) Pool Care Products to make adjustments. Follow label directions for each product.

[ROUTINE CHLORINATION: For best results, see Water Balance section above before treatment. Throughout the pool season, adjust and maintain pH at 7.2-7.6. Check available chlorine with a suitable test kit.

[[For Wading Pools, Splasher Pools and Kiddie Pools:]

Throughout the pool season, add [½ capful {or} 3 grams] of this product per 200 gallons of pool water daily or as often as needed to maintain chlorine residual at 1-4 ppm.]

{For small pools 500 gallons to less than 10,000 gallons}

[Each 0.2-0.4 ounces of this product will provide approximately 1-4 ppm available chlorine in 500 gallons of water. Maintain these conditions for proper operation by frequent testing with a test kit. Follow "HOW TO USE" directions on this package.]

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

{For pools 10,000 gallons and larger}

[FOR UNSTABILIZED POOLS: Add 5-7 ounces of this product per 10,000 gallons of pool water daily or as often as needed to maintain the free available chlorine residual at 1 – 4 ppm. Follow "HOW TO USE" directions on this package.

FOR POOLS STABILIZED USING [HTH] (brand name) STABILIZER AND CONDITIONER: Add 3–5 ounces per 10,000 gallons every other day or as often as needed to maintain the free available chlorine residual at 1-4 ppm. Follow "HOW TO USE" directions on this package.]

[SHOCK TREATMENT / SUPERCHLORINATION:

{For Wading Pools, Splasher Pools and Kiddie Pools}

Add [2 capfuls {or} 6 grams] of this product per 200 gallons of water to provide a dosage of 6 ppm free available chlorine.]

[For best results, see "WATER BALANCE" and "HOW TO USE" section above before treatment. Every 7 days, or as necessary to prevent pool problems, shock treat / superchlorinate the pool by adding 9-16 ounces [one bag {for 16 oz containers}] of this product per 10,000 gallons of water to provide 5 to 10 ppm available chlorine. Additional shock treatments may be required to correct problems which are caused by visible algae, high bathing loads, heavy wind and rainstorms. Additional shock treatments may also be required to correct problems such as unpleasant odors and eye irritation. Check the available chlorine with a suitable test kit.]

If any granules settle to the bottom of the pool use brush to disperse. Additional shocking to keep water clean and clear is recommended after: rain and heavy winds; high number of swimmers; increased water temperature; and/or increased frequency of pool usage. Do not reenter pool until chlorine residual is 1.0 to 4.0 ppm. {For Industrial/Municipal pool labels:} [Reenter pool when residual is 1-4 ppm, or when chlorine residual meets local public health guidelines].

{When contents are in a single use bag for use as a shock for pools 10,000 gallons or larger}

[Use entire contents when opened].

OPENING YOUR POOL: For best results, see the Water Balance section above before treatment. Always adjust and maintain pH in the 7.2 to 7.6 range. Follow "SHOCK TREATMENT" directions on this package. Allow 30 minutes for product to disperse. Test free available chlorine residual with a pool test kit. Repeat treatment as needed.

{For pools 10,000 gallons and larger}

[ALGAE CONTROL: Follow "SHOCK TREATMENT" directions on this label. Add this product as close as possible to any algae on the sides or bottom of the pool. If necessary, repeat the treatment. To prevent possible staining or bleaching, take the following steps immediately after treatment: Thoroughly clean pool by brushing surface of algae growth, vacuum and cycle through filter.]

[For preventative algae control, use your preferred [HTH] (brand name) algaecide product regularly. Follow label directions on the algaecide.]

Note to Reviewer:

[Items in brackets [AAA] are optional and may/may not be included on final label]
{Items in braces {AAA} are for information purposes and will not appear on final label}

[WINTERIZING: For best results, see "WATER BALANCE" section above before treatment. Gradually add 26 ounces of this product per 10,000 gallons of pool water that is clear and clean: This provides 15 ppm free available chlorine. Follow "HOW TO USE" directions on this package. Run the filter until granules are completely dissolved. Cover the pool with a pool cover. Prepare the heater, pump and filter components for winterizing by following manufacturer's directions.]

[[For Use with Automatic Granular Feeders:]

1. Before use, read the appropriate installation instructions and operating manual for your pool feeder.
2. Start the filter pump and check chlorine residual with a reliable test kit or automatic controller.
3. Fill the feeder's product container with this product only. Adjust chlorine feed rate setting according to the operating instructions in the manual.
4. After 24 hours, check the chlorine residual. If 1.0 to 4.0 ppm, leave the feed rate setting, if below 1.0 ppm, increase the feed rate setting. Allow sufficient time (e.g. one day) after changing the setting for the chlorine residual to readjust. The pool should not be used until the 1.0 to 4.0 ppm chlorine residual is established.
5. Always maintain pH between 7.2 and 7.6 by using a suitable pH adjuster according to directions on the label for such products.
6. If cyanuric acid is used to stabilize available chlorine, follow label directions for this product and maintain the chlorine residual at 1.0 to 4.0 ppm as determined by a test kit.
7. Refer to operating manuals for feed rate information.]

[NOTE: Adjust and maintain pH to 7.2-7.6 with [HTH pH plus] or [HTH pH minus] (brand name). Follow label directions. Add 1 lb. (16 oz.) of this product per 12,000 gallons of water. This will provide a dosage of 7.5 ppm free available chlorine. Maintain 5.0 to 10.0 ppm free available chlorine residual for at least 4 hours. Pool should not be entered until the free available chlorine residual is between 1.0 and 4.0 ppm. Thoroughly clean pool by scrubbing surface of algae growth, vacuum and cycle through filter. Monitor chlorine residual until chlorine levels are as indicated in instructions 4 through 7.]

{Alternate} [Note : If algae develop, adjust pH to 7.2 to 7.6, with [HTH pH plus] or [HTH pH minus] (brand name). Follow label directions. Add {HTH Super Sock It} (brand name), following label directions. Maintain 5-10 ppm free available chlorine residual for at least four hours. Pool should not be entered until the chlorine residual is between 1.0 and 4.0 ppm. Thoroughly clean pool by scrubbing surface of algae growth, vacuum and cycle through filter. Monitor chlorine residual until chlorine levels are as indicated in instructions 4 through 7.]

[TO DETERMINE YOUR POOL CAPACITY IN U.S. GALLONS, USE THE APPROPRIATE FORMULA BELOW:

SHAPE OF POOL	GAL. OF WATER (Dimensions in feet)
Rectangular	Length x Width x Avg. Depth x 7.5
Round	Diameter x Diameter x Avg. Depth x 5.9
Oval	Max Length x Max. Width x Avg. Depth x 5.9
Free Form	Surface Area (Sq. Feet) x Avg. Depth x 7.5

Note to Reviewer:

{Items in brackets [AAA] are optional and may/may not be included on final label}
{Items in braces {AAA} are for information purposes and will not appear on final label}

{Use 2} [SPA & HOT TUBS

HOW TO USE: For best results, see "WATER BALANCE" section below before treatment. Maintain these conditions for proper operation by frequent testing with a test kit. Do not allow cyanuric acid level to exceed 100 ppm. It is recommended that spas and hot tubs be drained every 30-90 days, more often under heavy use. Consult manufacturer's recommendations concerning the compatibility of chlorine sanitizers with their equipment. Some oils, lotions, fragrances, cleansers, etc., may cause foaming or cloudy water and may react with chlorine sanitizers to reduce their efficacy. If circulation is low, stir water after addition of chlorine or other chemicals.

WATER BALANCE: For best product performance, comfort, and crystal clear water: Maintain pH in the range of 7.2 to 7.6. Maintain total alkalinity in the range of 60 to 120 parts per million (ppm). Maintain calcium hardness above 200 ppm. Use a reliable test kit that measures all these ranges. Use [brand] [Spa Care] Products to make adjustments. Follow label directions for each product.

Do not enter spa or hot tub until the free available chlorine residual is less than 5 ppm for the below noted spa applications.

[Opening Your Spa] [Startup] [Freshly Filled]: For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Add one (1) ounce of this product to provide approximately 10 ppm available chlorine for each 500 gallons of water. Check the free available chlorine (FAC) and if less than 4-5 ppm, repeat as needed.]

[Routine Chlorination For] Regular Use: For best results, see "WATER BALANCE" section above before treatment. Turn on circulation system and ensure that it is operating properly. Scatter 0.3-0.5 ounces of this product per 500 gallons over the surface of the water. Test for free available chlorine and add additional product if necessary to maintain 3-5 ppm FAC while unit is in use.

Shock Treatment: After each use, shock treat with one (1) ounce of this product to provide approximately 10 ppm available chlorine per 500 gallons of water, to control odors and algae. Repeat as needed.

Algae Control: For preventative algae control, use your preferred [HTH] (brand name) [spa] algaecide product regularly. Follow the label directions on the algaecide.

Extended Non-use Period: For best results, see "WATER BALANCE" section above before treatment. During extended non-use periods when the unit is not being used add 1.4 ounces of this product per 500 gallons twice a week with the circulation system running or as needed to maintain 3-5 ppm free available chlorine.]

{Use 3}

[HUBBARD AND IMMERSION TANKS - Add 0.5 oz. of this product per 100 gallons of water before patient use to obtain a chlorine residual of 25 ppm, as determined by a suitable test kit. Adjust and maintain the water pH to between 7.2 and 7.6. After each use drain the tank. Add 0.5 oz. to a bucket of water and circulate this solution through the agitator of the tank for 15 minutes and then rinse out the solution. Clean tank thoroughly and dry with clean cloths.]

[HYDROTHERAPY TANKS - Add 1 oz. of this product per 1,000 gallons of water to obtain a minimum chlorine residual of 1 ppm, as determined by a suitable chlorine test kit, after satisfying any chlorine demand. Pool should not be entered until the chlorine residual is below 3 ppm. Adjust and maintain the water pH to between 7.2 and 7.6. Operate pool filter pump continuously. Drain pool weekly, and clean before refilling.]

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[INDUSTRIAL & COMMERCIAL USES – General Information & Dosing Instructions

When used in an automatic granular (hypo-) chlorinator, this product will effectively provide required available chlorine dosages for sanitization of food contact surfaces, sewage and wastewater effluent treatment, disinfection of drinking water, cooling tower/evaporative condenser water, laundry sanitizers, sanitization of farm premises, pulp and paper mill process water, post-harvest protection, food egg sanitization, fruit and vegetable washing, fish ponds and equipment, asphalt or wood roofs and sidings and food processing plants. Using the Flow rate and Required Dosage for your application, obtain the proper Feed Rate for this product, and refer to the chlorinator manufacturer's instructions on adjusting feed rates in the operating manual to obtain the appropriate setting for that chlorinator.]

[TO OBTAIN PROPER FEED RATES FOR AUTOMATIC CHLORINATORS:

Note: 1 lb./hr. = 16 oz./hr. and 1 lb./min. = 60 lbs./hr. = 960 oz./hr.

Flow Rate		Feed Rate of [HTH] (brand name) Granular 75 for Automatic Chlorinators					
		oz./hr.	lb./hr.	Lb./min.			
		Required Dosage, (ppm)					
gph	gpm	1	3	5	10	20	50
30	0.5	0.3	1.0	1.6	3.2	6.4	1.0
60	1	0.6	1.9	3.2	6.4	12.8	2.0
300	5	3.2	9.6	1.0	2.0	4.0	10.0
600	10	6.4	1.2	2.0	4.0	8.0	20.0
3000	50	2.0	6.0	10.0	20.0	40.1	1.7
4500	75	3.0	9.0	15.0	30.1	1.0	2.5
6000	100	4.0	12.0	20.0	0.7	1.3	3.3
15000	250	10.0	30.1	0.8	1.7	3.3	8.4
30000	500	20.0	1.0	1.7	3.3	6.7	16.7

[Use 4] [SANITIZATION OF NONPOROUS FOOD CONTACT SURFACES:

RINSE METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 50 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water to provide approximately 200 ppm available chlorine by weight.

Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment and do not soak equipment overnight. Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

IMMERSION METHOD - A solution of 100 ppm available chlorine may be used in the sanitizing solution if a chlorine test kit is available. Solutions containing an initial concentration of 100 ppm available chlorine must be tested and adjusted periodically to insure that the available chlorine does not drop below 50 ppm. Prepare a 100 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 50 gallons of water. If no test kit is available, prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water to provide approximately 200 ppm available chlorine by weight.

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Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. If solution contains less than 50 ppm available chlorine, as determined by a suitable test kit, either discard the solution or add sufficient product to reestablish a 200 ppm residual. Do not rinse equipment with water after treatment.

Sanitizers used in automated systems may be used for general cleaning but may not be reused for sanitizing purposes.

FLOW/PRESSURE METHOD - Disassemble equipment and thoroughly clean after use. Assemble equipment in operating position prior to use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110 % of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 25 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 2 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

CLEAN-IN-PLACE METHOD - Thoroughly clean equipment after use. Prepare a volume of a 200 ppm available chlorine sanitizing solution equal to 110 % of volume capacity of the equipment by mixing the product in a ratio of 1 oz. product with 25 gallons of water. Pump solution through the system until full flow is obtained at all extremities, the system is completely filled with the sanitizer and all air is removed from the system. Close drain valves and hold under pressure for at least 10 minutes to insure contact with all internal surfaces. Remove some cleaning solution from drain valve and test with a chlorine test kit. Repeat entire cleaning/sanitizing process if effluent contains less than 50 ppm available chlorine.

[COARSE] SPRAY METHOD - Preclean all surfaces after use. Use a 200 ppm available chlorine solution to control bacteria, mold or fungi and a 600 ppm solution to control bacteriophage. Prepare a 200 ppm sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 25 gallons of water. Prepare a 600 ppm solution by thoroughly mixing the product in a ratio of 3 oz. product with 20 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces treated with a 600 ppm solution with a 200 ppm solution.]

{Use 5} [SANITIZATION OF POROUS FOOD CONTACT SURFACES:

RINSE METHOD - Prepare a 600 ppm solution by thoroughly mixing 3 oz. of this product with 20 gallons of water. Clean surfaces in the normal manner. Rinse all surfaces thoroughly with the 600 ppm solution, maintaining contact for at least 2 minutes. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water. Prior to using equipment, rinse all surfaces with a 200 ppm available chlorine solution. Do not rinse and do not soak equipment overnight.

IMMERSION METHOD - Prepare a 600 ppm solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 20 gallons of water. Clean equipment in the normal manner. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water. Prior to using, immerse equipment in the 200 ppm sanitizing-solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse and do not soak equipment overnight.

[COARSE] SPRAY METHOD – Preclean all surfaces after use. Prepare a 600 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 3 oz. product with 20 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours. Prior to using equipment, rinse all surfaces with a 200 ppm available

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chlorine solution. Prepare a 200 ppm sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water.]

{Use 6} [SANITIZATION OF NONPOROUS NON-FOOD CONTACT SURFACES:

RINSE METHOD – Prepare a sanitizing solution by thoroughly mixing 1 oz. of this product with 25 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD – Prepare a sanitizing solution by thoroughly mixing, in a immersion tank, 1 oz. of this product with 25 gallons of water to provide approximately 200 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

[COARSE] SPRAY METHOD – Preclean all surfaces after use. Prepare a 200 ppm available chlorine sanitizing solution of sufficient size by thoroughly mixing the product in a ratio of 1 oz. product with 25 gallons of water. Use spray equipment which can resist hypochlorite solutions. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]

{Use 7} [DISINFECTION OF NONPOROUS NON-FOOD CONTACT SURFACES:

RINSE METHOD – Prepare a disinfecting solution by thoroughly mixing 3 oz. of this product with 25 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the disinfecting solution, maintaining contact with the solution for at least 10 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD – Prepare a disinfecting solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 25 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the disinfecting solution for at least 10 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.]

{Use 8} [SANITIZATION OF POROUS NON-FOOD CONTACT SURFACES:

RINSE METHOD – Prepare a sanitizing solution by thoroughly mixing 3 oz. of this product with 25 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean surfaces in the normal manner. Prior to use, rinse all surfaces thoroughly with the sanitizing solution, maintaining contact with the sanitizer for at least 2 minutes. Do not rinse equipment with water after treatment and do not soak equipment overnight.

IMMERSION METHOD – Prepare a sanitizing solution by thoroughly mixing, in an immersion tank, 3 oz. of this product with 25 gallons of water to provide approximately 600 ppm available chlorine by weight. Clean equipment in the normal manner. Prior to use, immerse equipment in the sanitizing solution for at least 2 minutes and allow the sanitizer to drain. Do not rinse equipment with water after treatment.

[COARSE] SPRAY METHOD – After cleaning, sanitize non-food contact surfaces with 600 ppm available chlorine by thoroughly mixing the product in a ratio of 3 oz. of this product with 25 gallons of water. Use spray equipment which can resist hypochlorite solutions. Always empty and rinse spray equipment with potable water after use. Prior to using equipment, thoroughly spray all surfaces until wet, allowing excess sanitizer to drain. Vacate area for at least 2 hours.]

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{Use 9} [SEWAGE & WASTEWATER EFFLUENT TREATMENT: The disinfection of sewage effluent must be evaluated by determining the total number of coliform bacteria and/or fecal coliform bacteria (as determined by the Most Probable Number (MPN) procedure) of the chlorinated effluent has been reduced to or below the maximum permitted by the controlling regulatory jurisdiction.

On the average, satisfactory disinfection of secondary wastewater effluent can be obtained when the chlorine residual is 0.5 ppm after 15 minutes contact. Although the chlorine residual is the critical factor in disinfection, the importance of correlating chlorine residual with bacterial kill must be emphasized. The MPN of the effluent, which is directly related to the water quality standards requirements, should be the final and primary standard and the chlorine residual should be considered an operating standard valid only to the extent verified by the coliform quality of the effluent.

The following are critical factors affecting wastewater disinfection:

1. Mixing: It is imperative that the product and the waste water be instantaneously and completely flash mixed to assure reaction with every chemically active soluble and particulate component of the waste water.
2. Contacting: Upon flash mixing, the flow through the system must be maintained.
3. Dosage/Residual Control: Successful disinfection is extremely dependent on response to fluctuating chlorine demand to maintain a predetermined, desirable chlorine level. Secondary effluent should contain 0.2 to 1.0 ppm chlorine residual after a 15 to 30 minute contact time. A reasonable average of residual chlorine is 0.5 ppm after 15 minutes contact time.]

{Use 10} [SEWAGE AND WASTEWATER TREATMENT:

EFFLUENT SLIME CONTROL – Apply a 100 to 1,000 ppm available chlorine solution at a location which will allow complete mixing. Prepare this solution by mixing 2 to 20 oz. of this product with 120 gallons of water. Once control is evident, apply a 15 ppm available chlorine solution. Prepare this solution by mixing 0.3 oz. of this product with 120 gallons of water.

FILTER BEDS: SLIME CONTROL – Remove filter from service, drain to a depth of 1 ft. above filter sand, and add 16 oz. of product per 25 sq. ft. evenly over the surface. Wait 30 minutes before draining water to a level that is even with the top of the filter. Wait for 4 to 6 hours before completely draining and backwashing filter.]

{Use 11} [DISINFECTION OF DRINKING WATER (EMERGENCY/PUBLIC/INDIVIDUAL SYSTEMS):

PUBLIC SYSTEMS – [Mix a ratio of 1 oz. of this product to 7,000 gallons of water.] {or} [Mix a ratio of 25 oz. to 65 oz. of this product into 25 gallons of water to make a 0.5% to 1.5% solution.] Begin feeding this solution with a hypochlorinator until a free available chlorine residual of at least 0.2 ppm and no more than 0.6 ppm is attained throughout the distribution system. Check water frequently with a chlorine test kit. Bacteriological sampling must be conducted at a frequency no less than that prescribed by the National Interim Primary Drinking Water Regulations. Contact your local Health Department for further details.

INDIVIDUAL SYSTEMS: DUG WELLS – Upon completion of the casing (lining) wash the interior of the casing (lining) with a 100 ppm available chlorine solution using a stiff brush. This solution can be made by thoroughly mixing 1 oz. of this product into 50 gallons of water. After covering the well, pour the sanitizing solution into the well through both the pipe sleeve opening and the pipeline. Wash the exterior of the pump cylinder also with the sanitizing solution. Start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours, flush well until all traces of chlorine have been removed from the water. Contact your local Health Department for further details.

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INDIVIDUAL WATER SYSTEMS: DRILLED, DRIVEN & BORED WELLS – Run pump until water is as free from turbidity as possible. Pour a 100 ppm available chlorine sanitizing solution into the well, this solution can be made by thoroughly mixing 1 oz. of this product into 40 gallons of water. Add 5 to 10 gallons of clean, chlorinated water to the well in order to force the sanitizer into the rock formation. Wash the exterior of pump cylinder with the sanitizer. Drop pipeline into well, start pump and pump water until strong odor of chlorine in water is noted. Stop pump and wait at least 24 hours. After 24 hours, flush well until all traces of chlorine have been removed from the water. Deep wells with high water levels may necessitate the use of special methods for introduction of the sanitizer into the well. Consult your local Health Department for further details.

INDIVIDUAL WATER SYSTEMS: FLOWING ARTESIAN WELLS – Artesian wells generally do not require disinfection. If analyses indicate persistent contamination, the well should be disinfected. Consult your local Health Department for further details.

EMERGENCY DISINFECTION – When boiling of water for 1 minute is not practical, water can be made potable by using this product. Prior to addition of the sanitizer, remove all suspended material by filtration or by allowing it to settle to the bottom. Decant the clarified, contaminated water to a clean container and add 1 grain of this product to 1 gallon of water. One grain is approximately the size of the letter "o" in this sentence. Allow the treated water to stand for 30 minutes. Properly treated water should have a slight chlorine odor. If not, repeat dosage and allow the water to stand an additional 15 minutes. The treated water can then be made palatable by pouring it between clean containers for several times.]

{Use 12} [PUBLIC WATER SYSTEMS:

RESERVOIRS – ALGAE CONTROL- Hypochlorinate streams feeding the reservoir. Suitable feeding points should be selected on each stream at least 50 yards upstream from the points of entry into the reservoir.

MAINS – Thoroughly flush section to be sanitized by discharging from hydrants. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.

NEW TANKS, BASINS, ETC. – Remove all physical soil from surfaces. Place 4 oz. of this product for each 6 cubic feet of working capacity (500 ppm available chlorine). Fill to working capacity and allow to stand for at least 4 hours. Drain and flush with potable water and return to surface.

NEW FILTER SAND – Apply 16 oz. of this product for each 200 to 250 cubic feet of sand. The action of the product dissolving as the water passes through the bed will aid in sanitizing the new sand.

NEW WELLS – Flush the casing with a 50 ppm available chlorine solution of water containing 1 oz. of this product for each 100 gallons of water. The solution should be pumped or fed by gravity into the well after thorough mixing with agitation. The well should stand for several hours or overnight under chlorination. It may then be pumped until a representative raw water sample is obtained. Bacterial examination of the water will indicate whether further treatment is necessary.

EXISTING EQUIPMENT – Remove equipment from service, thoroughly clean surfaces of all physical soil. Sanitize by placing 4 oz. of this product for each 6 cubic feet capacity (approximately 500 ppm available chlorine). Fill to working capacity and let stand at least 4 hours. Drain and place in service. If the previous treatment is not practical, surfaces may be sprayed with a solution containing 1 oz. of this product for each 5 gallons of water (approximately 1,000 ppm available chlorine). After drying, flush with water and return to service.]

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{Use 13} [EMERGENCY DISINFECTION AFTER FLOODS:

WELLS – Thoroughly flush contaminated casing with a 500 ppm available chlorine solution. Prepare this solution by mixing 1 oz. of this product with 10 gallons of water. Backwash the well to increase yield and reduce turbidity, adding sufficient chlorinating solution to the backwash to produce a 10 ppm available chlorine residual, as determined by a chlorine test kit. After the turbidity has been reduced and the casing has been treated, add sufficient chlorinating solution to produce a 50 ppm available chlorine residual. Agitate the well water for several hours and take a representative water sample. Treat well again if water samples are biologically unacceptable.

RESERVOIRS – In case of contamination by overflowing streams, establish hypochlorinating stations upstream of the reservoir. Chlorinate the inlet water until the entire reservoir obtains a 0.2 ppm available chlorine residual, as determined by a suitable chlorine test kit. In case of contamination from surface drainage, apply sufficient product directly to the reservoir to obtain a 0.2 ppm available chlorine residual in all parts of the reservoir.

BASINS, TANKS, FLUMES, ETC. – Thoroughly clean all equipment, then apply 4 oz. of product per 6 cu. Ft. of water to obtain 500 ppm available chlorine, as determined by a suitable test kit. After 24 hours drain, flush, and return to service. If the previous method is not suitable, spray or flush the equipment with a solution containing 1 oz. of this product for each 5 gallons of water (1,000 ppm available chlorine). Allow to stand for 2 – 4 hours, flush and return to service.

FILTERS – when the sand filter needs replacement, apply 16 oz. of this product for each 200 to 250 cubic feet of sand. When the filter is severely contaminated, additional product should be distributed over the surface at the rate of 16 oz. per 25 sq. ft. Water should stand at a depth of 1 foot above the surface of the filter bed for 4 to 24 hours. When filter beds can be back washed of mud and silt, apply 16 oz. of this product per each 60 sq. ft., allowing the water to stand at a depth of 1 foot above the filter sand. After 30 minutes, drain water to the level of the filter. After 4 to 6 hours drain, and proceed with normal back washing.

DISTRIBUTION SYSTEM – Flush repaired or replaced section with water. Establish a hypochlorinating station and apply sufficient product until a consistent available chlorine residual of at least 10 ppm remains after a 24-hour retention time. Use a chlorine test kit.]

{Use 14} [EMERGENCY DISINFECTION AFTER FIRES:

CROSS CONNECTIONS OR EMERGENCY CONNECTIONS – Hypochlorination or gravity feed equipment should be set up near the intake of the untreated water supply. Apply sufficient product to give a chlorine residual of at least 0.1 to 0.2 ppm at the point where the untreated supply enters the regular distribution system. Use a chlorine test kit.]

{Use 15} [EMERGENCY DISINFECTION AFTER DROUGHTS:

SUPPLEMENTARY WATER SUPPLIES – Gravity or mechanical hypochlorite feeders should be set up on a supplementary line to dose the water to a minimum chlorine residual of 0.2 ppm after a 20 minute contact time. Use a chlorine test kit.

WATER SHIPPED IN BY TANKS, TANK CARS, TRUCKS, ETC. –Thoroughly clean all containers and equipment. Spray a 500 ppm available chlorine solution and rinse with potable water after 5 minutes. This solution is made by mixing 1 oz. of this product for each 10 gallons of water. During the filling of the containers, dose with sufficient amounts of this product to provide at least a 0.2 ppm chlorine residual. Use a chlorine test kit. Not approved for use in the State of California.]

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{Use 16} [EMERGENCY DISINFECTION AFTER MAIN BREAKS:

MAINS – Before assembly of the repaired section, flush out mud and soil. Permit a water flow of at least 2.5 feet per minute to continue under pressure while injecting this product by means of a hypochlorinator. Stop water flow when a chlorine residual test of 50 ppm is obtained at the low pressure end of the new main section after a 24 hour retention time. When chlorination is completed, the system must be flushed free of all heavily chlorinated water.]

{Use 17} [COOLING TOWER/EVAPORATIVE CONDENSER WATER:

SLUG FEED METHOD – Initial dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved. Subsequent dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD – Initial Dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, 1/4, or 1/5) of this initial dose when half (or 1/3, 1/4, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD –

Initial dose: when system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2 oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual. Badly fouled systems must be cleaned before treatment is begun.]

{Use 18} [LAUNDRY SANITIZERS:**[HOUSEHOLD LAUNDRY SANITIZERS –**

IN SOAKING SUDS – Thoroughly mix 1 Tbs. of this product to 10 gallons of wash water to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent. Immerse laundry for at least 11 minutes prior to starting the wash/rinse cycle.

IN WASHING SUDS – Thoroughly mix 1 Tbs. of this product to 10 gallons of wash water containing clothes to provide 200 ppm available chlorine. Wait 5 minutes, then add soap or detergent and start the wash/rinse cycle.

COMMERCIAL LAUNDRY SANITIZERS – Wet fabrics or clothes should be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 25 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics/clothes in the regular wash cycle with a good detergent. Test the level of available chlorine if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm.]

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[FEDERALLY INSPECTED MEAT & POULTRY PLANT LAUNDRY SANITIZERS – Wet fabrics which contact meat or poultry products directly or indirectly should be spun dry prior to sanitization. Thoroughly mix 1 oz. of this product with 25 gallons of water to yield 200 ppm available chlorine. Promptly after mixing the sanitizer, add the solution into the prewash prior to washing fabrics in the regular wash cycle with a good detergent. Test the level of available chlorine if solution has been allowed to stand. Add more of this product if the available chlorine level has dropped below 200 ppm. Thoroughly rinse fabrics with potable water at the end of the laundering operation.]]

{Use 19} [FARM PREMISES: Remove all animals, poultry, and feed from premises, vehicles, and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes and other facilities occupied or traversed by animals or poultry. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. To disinfect, saturate all surfaces with a solution of at least 1000 ppm available chlorine for a period of 10 minutes. A 1000 ppm solution can be made by thoroughly mixing 2 oz. of this product with 10 gallons of water. Immerse all halters, ropes and other types of equipment used in handling and restraining animals or poultry, as well as the cleaned forks, shovels and scrapers used for removing litter and manure. Ventilate buildings, cars, boats and other closed spaces. Do not house livestock or poultry or employ equipment until chlorine has been dissipated. All treated feed racks, mangers, troughs, automatic feeders, fountains and waterers must be rinsed with potable water before reuse.]

{Use 20} [PULP AND PAPER MILL PROCESS WATER SYSTEMS:

SLUG FEED METHOD – Initial Dose: When system is noticeably fouled, apply 10 to 20. oz. of this product per 10,000 gallons of water in the system to obtain from 5 to 10 ppm available chlorine. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system daily, or as needed to maintain control and keep the chlorine residual at 1 ppm. Badly fouled systems must be cleaned before treatment is begun.

INTERMITTENT FEED METHOD – Initial Dose: when system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine. Apply half (or 1/3, ¼, or 1/5) of this initial dose when half (or 1/3, ¼, or 1/5) of the water in the system has been lost by blow down.

Subsequent Dose: When microbial control is evident, add 2 oz. of this product per 10,000 gallons of water in the system to obtain a 1 ppm residual. Apply half (or 1/3, ¼, or 1/5) of this initial dose when half (or 1/3, ¼, or 1/5) of the water in the system has been lost by blow down. Badly fouled systems must be cleaned before treatment is begun.

CONTINUOUS FEED METHOD – Initial dose: When system is noticeably fouled, apply 10 to 20 oz. of this product per 10,000 gallons of water in the system to obtain 5 to 10 ppm available chlorine.

[Subsequent Dose: Maintain this treatment level by starting a continuous feed of 2 oz. of this product per 10,000 gallons of water lost by blow down to maintain a 1 ppm residual.] Badly fouled systems must be cleaned before treatment is begun.]

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{Use 21} [AGRICULTURAL USES:

{Note: The following WPS section will appear only on end-use product labels that bear agricultural uses}

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Workers Protection Standard. The Restricted-Entry Interval (REI) is 0 days when using this product. There are no posting or notification requirements when using this product. Personal Protective Equipment should be worn as described under the "Precautionary Statements" section of this label.

BEES - Disinfect leaf cutting bee cells and bee boards by immersion in a solution containing 1 ppm available chlorine for 3 minutes. Allow cells to drain for 2 minutes and dry for 4 to 5 hours or until no chlorine odor can be detected. This solution is made by thoroughly mixing ¼ Tsp. of this product to 200 gallons of water. The bee domicile is disinfected by spraying with a 0.1 ppm solution until all surfaces are thoroughly wet. Allow the domicile to dry until all chlorine odor has dissipated.

FOOD EGG SANITIZATION – Thoroughly clean all eggs. Thoroughly mix 1 oz. of this product with 25 gallons of warm water to produce a 200 ppm available chlorine solution. The sanitizer temperature should not exceed 130°F. Spray the warm sanitizer so that the eggs are thoroughly wetted. Allow the eggs to thoroughly dry before casing or breaking. Do not apply a potable water rinse. The solution should not be reused to sanitize eggs.

FRUIT & VEGETABLE WASHING – Thoroughly clean all fruits and vegetables in a wash tank. Thoroughly mix 1 oz. of this product in 200 gallons of water to make a sanitizing solution of 25 ppm available chlorine. After draining the tank, submerge fruit or vegetables for 2 minutes in a second wash tank containing the recirculating sanitizing solution. Spray rinse vegetables with the sanitizing solution prior to packaging. Rinse fruit with potable water only prior to packaging.

COMMODITY FRUIT & VEGETABLE WASHING — Wash fruits and vegetables to remove organic matter; then treat as noted below.

Note to Reviewer:

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Table of Recommended Levels and Use Dilutions for Available Chlorine

Commodity	Usage Dilution dry oz. added to 100 gal. of water	Available Chlorine (ppm)	Contact Time
Apple	3.1 to 4.1	150-200	45-90 sec. (dump tank) 5-15 sec. (spray)
Artichoke	2.1 to 3.1	100-150	5-15 sec. (spray)
Asparagus	2.6 to 3.1	125-150	5-15 sec. (spray) 20-30 min. (hydrocooler)
Brussels Sprouts	2.1 to 3.1	100-150	5-15 sec. (spray)
Carrots	2.1 to 4.1	100-200	1-5 min. (dump tank) 1-5 min. (flume)
Cauliflower	6.2 to 8.2	300-400	5-15 sec. (spray)
Celery	2.1 to 2.3	100-110	5-15 sec. (spray)
Cherry	1.5 to 2.1	75-100	5-15 sec. (spray)
Chopped Cabbage ¹	1.6 to 2.1	80-100	5-15 sec. (spray)
Chopped Lettuce ¹	1.6 to 2.1	80-100	5-15 sec. (spray)
Citrus Fruits	0.8 to 1.5	40-75	5-15 sec. (spray)
	0.6 to 1.0	30-50	2-3 min. (dump tank)
	2.1 to 4.1	100-200	3-5 min. (drench)
Cucumber	6.2 to 7.2	300-350	5-15 sec. (spray)
Green Onions	1.5 to 2.5	75-120	5-15 sec. (spray)
Melons	2.1 to 3.1	100-150	5-15 sec. (spray)
	0.6 to 1.5	30-75	20-30 min. (hydrocooler)
Pears	6.2 to 8.2	300-400	2-3 min. (dump tank)
Peppers	6.2 to 8.2	300-400	5-15 sec. (spray)
	2.1 to 2.8	100-135	2-5 min. (dump tank)
Potatoes	0.6 to 2.1	30 to 100	2-5 min. (dump tank)
	4.1 to 6.2	200 to 300	2-5 min. (flume)
	2.1 to 4.1	100 to 200	5-30 sec. (spray)
Radishes	2.1 to 3.1	100-150	5-15 sec. (spray)
Stonefruits (Cherries, Peaches, Nectarines, and Plums)	0.6 to 1.5	30-75	Hydrocooler
	1.0 to 2.1	50-100	5-15 sec. (spray)
Sweet Potatoes (Ipomoea batatas) - to control & reduce spread of post-harvest soft rot organisms	3.1 to 4.1	150 to 500	2-5 min. (spray or dip; change the solution after one hour, or as needed)
Tomatoes	6.2 to 7.2	300 to 350	2-3 min. (tank)
	2.1 to 3.1	100 to 150	5-15 sec. (spray)

1 Note: After treatment the adhering water must be removed by a centrifugation process.

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SEEDS - To control bacterial spot (Xanthomonas vesicatoria) on Pimento seeds, initially remove moist seeds from ripe fruits. To control surface fungi and bacteria on tomato seeds initially wash seeds. Immediately soak seeds in 39,000 ppm solution for 15 minutes with continuous agitation. After treatment rinse seeds in potable water for 15 minutes. Dry seeds to normal moisture. The solution may be made by mixing 7 oz. of this product with 1 gallon of water.

MUSHROOMS - To control bacterial blotch (Pseudomonas tolaasii) use a 100 to 200 ppm solution prior to watering mushroom production surfaces. This solution may be made by mixing 0.2 to 0.4 oz. of this product with 10 gallons of water. First application should begin when pins form, and thereafter, between breaks on a need basis depending on the occurrence of bacterial blotch. This product may be applied directly to pins to control small infection foci. Apply 1.5 to 2.0 oz. per square foot of growing space.]

{Use 22} [AQUACULTURAL USES:

FISH PONDS - Remove fish from ponds prior to treatment. Thoroughly mix 20 oz. of this product to 10,000 gallons of water to obtain 10 ppm available chlorine. Add more product to the water if the available chlorine level is below 1 ppm after 5 minutes. Return fish to pond after the available chlorine level reaches zero.

FISH POND EQUIPMENT - Thoroughly clean all equipment prior to treatment. Thoroughly mix 1 oz. of this product to 25 gallons of water to obtain 200 ppm available chlorine. Porous equipment should soak for one hour.

MAINE LOBSTER PONDS - Remove lobsters, seaweed etc. from ponds prior to treatment. Drain the pond. Thoroughly mix 1,200 oz. of this product to 10,000 gallons of water to obtain at least 600 ppm available chlorine. Apply so that all barrows, gates, rock and dam are treated with product. Permit high tide to fill the pond and then close gates. Allow water to stand for 2 to 3 days until the available chlorine level reaches zero. Open gates and allow 2 tidal cycles to flush the pond before returning lobsters to pond. Not approved for use in the State of California.

CONDITIONING LIVE OYSTERS - Thoroughly mix 1 oz. of this product in 10,000 gallons of water at 50 to 70°F to obtain 0.5 ppm available chlorine. Expose oysters to this solution for at least 15 minutes, monitoring the available chlorine level so that it does not fall below 0.05 ppm. Repeat entire process if the available chlorine level drops below 0.05 ppm or the temperature falls below 50°F. Not approved for use in the State of California.

CONTROL OF SCAVENGERS IN FISH HATCHERY PONDS - Prepare a solution containing 200 ppm of available chlorine by mixing 0.5 oz. of product with 10 gallons of water. Pour into drained pond potholes. Repeat if necessary. Do not put desirable fish back into refilled ponds until chlorine residual has dropped to 0 ppm, as determined by a test kit.]

{Use 23} [SANITIZATION OF DIALYSIS MACHINES: Flush equipment thoroughly with water prior to using this product. Thoroughly mix 8 oz. of this product to 75 gallons of water to obtain at least 600 ppm available chlorine. Immediately use this product in the hemodialysate system allowing for a minimum contact time of 15 minutes at 20°C. Drain system of the sanitizing solution and thoroughly rinse with water. Discard and DO NOT reuse the spent sanitizer. Rinsate must be monitored with a suitable test kit to insure that no available chlorine remains in the system.

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This product is recommended for decontaminating single and multipatient hemodialysate systems. This product has been shown to be an effective disinfectant (virucide, fungicide, bactericide, pseudomonicide) when tested by AOAC and EPA test methods. This product may not totally eliminate all vegetative microorganisms in hemodialysate delivery systems due to their construction and/or assembly, but can be relied upon to reduce the number of microorganisms to acceptable levels when used as directed. This product should be used in a disinfectant program which includes bacteriological monitoring of the hemodialysate delivery system. This product is NOT recommended for use in hemodialysate or reverse osmosis (RO) membranes. Consult the guidelines for hemodialysate systems available from the Hepatitis Laboratories, CDC, Phoenix, AZ 85021.]

{Use 24} [TOILET BOWL SANITIZERS These products are marketed as individual packages for placement in the toilet. Therefore, use directions are not appropriate.] {Claims are limited to sanitization. No claims for disinfection are permitted}

{Use 25} [ASPHALT OR WOOD ROOFS AND SIDINGS - To control fungus and mildew, first remove all physical soil by brushing and hosing with clean water, and apply a 5,000 ppm available chlorine solution. Mix 1 oz. of this product per gallon of water and brush or spray roof or siding. After 30 minutes, rinse by hosing with clean water.]

{Use 26} [BOAT BOTTOMS - To control slime on boat bottoms, sling a plastic tarp under boat, retaining enough water to cover the fouled bottom area, but not allowing water to enter enclosed area. This envelope should contain approximately 500 gallons of water for a 14 foot boat. Add 3.5 oz. of this product to this water to obtain a 35 ppm available chlorine concentration. Leave immersed for 8 to 12 hours. Repeat if necessary. Do not discharge the solution until the free chlorine level has dropped to 0 ppm, as determined by a swimming pool test kit.]

{Use 27} [ARTIFICIAL SAND BEACHES: To sanitize the sand, spray a 500 ppm available chlorine solution containing 0.1 oz. of this product per gallon of water at frequent intervals. Small areas can be sprinkled with a watering can.]

{Use 28} [FOOD PROCESSING PLANTS:

TREATMENT OF FEDERALLY INSPECTED MEAT & POULTRY PLANT POTABLE WATER SUPPLIES - Solutions of this product containing 1% available chlorine will effectively disinfect the water supply in Federally Inspected Meat & Poultry Plants. The solutions should be fed into the water supply by a hypochlorinator on the intake side of the pump. An available chlorine residual of 0.1 to 0.6 ppm must be maintained throughout the water distribution system to assure adequate disinfection. A regular testing program should be initiated to make sure that the proper chlorine residuals are present at all times. To make a 1% solution, mix 10 ounces of this product into 5 gallons of water.

[COOLING WATER IN CANNERIES - Solutions of this product containing 1% available chlorine will sanitize cooling water, protect canned goods from contamination and spoilage and prevent staining of cans. The solution should be fed into cooling tanks or channels to reach a concentration of 2 ppm available chlorine. Check every two or three hours to be sure that an available chlorine residual of 2 ppm is maintained throughout the cooling system. To make a 1% solution, mix 10 ounces of this product into 5 gallons of water.]

POULTRY DRINKING WATER - Spray or flush with a solution containing 1 oz. of this product for every gallon of water. Treat poultry drinking water to a dosage of 1 to 5 ppm available chlorine by adding 1 to 5 oz. of this product per 5,000 gallons of water. Not approved for use in the State of California.

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FISH FILLETING - Eviscerated and degilled fish removed from the fishing vessel are placed in a wash tank of seawater or fresh water which has been treated with enough product to produce a chlorine residual of 25 ppm, as determined by a test kit. Remove fish from treated water 24 to 48 hours before filleting. After scaling, the fish are again washed in a 25 ppm solution, and are ready for filleting.

PECAN CRACKING AND DYEING - Prepare a 1000 ppm available chlorine soaking solution by adding 1 oz. of this product for each 5 gallons of water to obtain a 1000 ppm available chlorine content. Soak for a minimum of 10 minutes. After removal, age pecans for 24 hours. Before bleaching, pecans are placed in a rotary cleaner where they are washed, drained, and soaked in a 2% sulphuric acid bath at 80 to 90°F for 1 minute. Transfer to a solution containing 100 oz. of this product for each 100 gallons of water (5000 ppm). After 4 to 8 minutes, they are drained and washed in a 1% sulphuric acid bath at 80 to 90°F. They are then dried.]

[Use 29] [CONTROL OF BACTERIA, ALGAE, SLIME BUILD-UP AND CLOGGING IN SPECIFIED IRRIGATION SYSTEMS: Always add this product to water; NEVER add water to this product. To produce a 0.5% available chlorine solution, add 0.9 dry oz. of this product to one (1) gallon of water. This solution may be then fed by gravity, or a metering pump to the irrigation system water to achieve the desired available chlorine strength in the water. The APPLICATION RATES section provides the levels of free residual chlorine needed to prevent or address bio-fouling occurring in drip/trickle irrigation systems. When utilizing a metering pump, refer to the instruction manual for varying the output of the pump. This product is to be applied through drip/trickle sprinkler irrigation systems only for agricultural crops only where this manner of use will not cause crop damage.

APPLICATION RATES

If the irrigation water has high levels of nutrients causing bacterial, algal, or other bio-fouling that reduces system performance, continuous use of this product may be necessary. The recommended level of free residual chlorine for continuous feed is 1 to 2 ppm measured at the end of the farthest lateral using a good quality test kit for free chlorine (also called "free residual" or "free available" chlorine).*

Periodic shock treatments at a higher available chlorine rate of up to 20 ppm free residual may be appropriate where bacteria and/or algae clogging and build-up are not managed by maintaining a continuous residual. The frequency of the shock application depends upon the frequency and extent of bio-clogging.

Superchlorination, bringing concentrations to as much as 100 ppm total available chlorine, is recommended for reclaiming low-volume irrigation systems if clogged by algae and bacterial slimes. Set the metering pump to deliver 100 ppm in the drip system and monitor the free chlorine residual at the end of the farthest lateral. As soon as it is established that the free residual reading is between 10-20 ppm, shut the system down and leave it undisturbed for up to 24 hours. Then flush all submains and laterals with fresh water. Superchlorination will not dissolve/remove scale or inorganic sediment fouling.

***Note:** To correctly establish the dose setting required, it is necessary to measure the free chlorine concentration (ppm) at the end of the treated increment in the field and adjust the dose setting until the desired free chlorine concentration is obtained. This is because contaminants in the water may consume available chlorine resulting in a concentration that is less than the concentration desired as specific above. Only experience can establish the actual metering pump settings required to provide the amount of free chlorine at the end of the farthest lateral (and consequent treatment of the irrigation system). Normally the treatment level at the end of the farthest lateral will be 1-2 ppm free chlorine.

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GENERAL APPLICATION INSTRUCTIONS

- Chlorination should be started during irrigation, near the end of the irrigation sequence, but early enough to establish the desired free chlorine concentration throughout the system being treated.
- Apply this product upstream of the filter to help keep filter clean.
- Determine the level of free chlorine as described above, using a free chlorine test kit. Allow sufficient time to achieve a steady reading.
- DO NOT apply this product when fertilizers, herbicides, and insecticides are being injected since they will consume the available chlorine and may product toxic reaction products.
- Shut down the product feed as soon as the irrigation water is switched to the next irrigation sector. Leave the treated water residing in the section that has been shut down.
- Refer to the metering pump use instructions as needed.

SENSITIVE PLANT SPECIES

Certain plants, including various species of trees, flowers, shrubs, agronomic crops, fruits, and vegetables are adversely affected by chlorination irrigation. The use of this product can impact the growth, appearance, and health of the plants.

Begonias, geraniums and other ornamental plant species are known to be sensitive to continuous chlorination at levels of 1-2 ppm free chlorine. Plant species such as tomato, lettuce, broccoli, and petunia are sensitive to periodic chlorination levels of 10-20 ppm free chlorine.

If uncertain of a plant's tolerance, consult an agronomist or a support agency or use an alternate method to remove bio-fouling from the irrigation system.]